

Title (en)

Method for obtaining a high dynamic range read-out signal of a CMOS-based pixel structure and such CMOS-based pixel structure

Title (de)

Verfahren zur Erzeugung eines Auslegesignals einer auf CMOS basierender Pixelstruktur und eine solche auf CMOS basierender Pixelstruktur

Title (fr)

Méthode pour obtenir un signal de lecture d'une structure de pixel basée sur le CMOS et une telle structure de pixel basée sur le CMOS

Publication

**EP 0858212 A1 19980812 (EN)**

Application

**EP 98870024 A 19980206**

Priority

- EP 98870024 A 19980206
- EP 97870084 A 19970604
- EP 97870142 A 19970922
- EP 97870169 A 19971024
- US 3753197 P 19970210

Abstract (en)

- A method is disclosed for obtaining a read-out signal of a MOS-based pixel structure having at least a photosensitive element with an output node and a memory element with a first switch therebetween. The method comprises the steps of while acquiring charge carriers on said output node of said photosensitive element, said charge carriers being converted from electromagnetic radiation on the photosensitive element, after a first time period creating a first signal, and after a second time period, creating a second signal, said read-out signal being a combination of at least said first and said second signals. According to the present invention, there is no limitation to the amount of collected charges in none of the integrated periods. The signal collected during the first period is memorized by a switch which shortly opens and closes between the period. The switch is thus in the same state in both period of time. After a second period, there are thus two charge packets, each obtained during a different time. In order to read-out, these two charge packets are then combined into one reading. This combination is known either by adding or subtracting this charge packets e.g. by adding or subtracting them in the circuitry external to the sensor. <IMAGE>

IPC 1-7

**H04N 3/15**

IPC 8 full level

**H01L 27/146** (2006.01); **H04N 3/15** (2006.01); **H04N 5/335** (2006.01)

CPC (source: EP)

**H01L 27/14609** (2013.01); **H01L 27/14643** (2013.01); **H04N 25/575** (2023.01)

Citation (search report)

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Designated contracting state (EPC)

BE DE FI FR GB IT NL SE

DOCDB simple family (publication)

**EP 0858212 A1 19980812**; **EP 0858212 B1 20020529**; DE 69805555 D1 20020704; DE 69805555 T2 20030116; JP 2008017536 A 20080124; JP 4457134 B2 20100428; JP H114385 A 19990106

DOCDB simple family (application)

**EP 98870024 A 19980206**; DE 69805555 T 19980206; JP 2007249524 A 20070926; JP 2726498 A 19980209